

REMARKS

1. Summary of Office Action

In the Office Action mailed March 16, 2006, the Examiner rejected claims 1-8 under 35 U.S.C. § 103(a) as being obvious over a combination of U.S. Patent No. 6,714,515 (Marchand), U.S. Patent No. 6,668,175 (Almgren), and U.S. Patent No. 6,526,026 (Menon). Further, the Examiner objected to the Abstract because it exceeds the 150 word limit and objected to the disclosure because it does not contain discussion of Figures 1-5. Additionally, the Examiner objected to claims 1 and 7 because the short form “CM” should be typed out as connection management.

2. Status of the Claims

Presently pending in this application are claims 1-8, of which claims 1 and 7 are independent.

3. Response to Examiner’s Objections

As set forth, claims 1 and 7 have been amended so that the short form “CM” has been typed out as connection management. Further, the Abstract has been amended within the 150 word limit. Descriptions for Figures 1-5 have been provided. No new matter has been added.

4. Summary of the Claimed Invention

The independent claims, claims 1 and 7, are directed towards a method of routing a call request to different network entities depending on whether a circuit related service is requested or packet-related service is requested. The respective network entities then direct the radio access network (RAN) to assign a bearer channel.

As set forth in the specification and various claims of the present application, a RAN receives a service request message from a mobile station. The RAN then determines whether the service request message requests a circuit-related service or a packet-related service. (As

specified by the dependent claims, this determination may be made by examining an IP address in the service request message.) Based on that determination, one of two sequences ensue, both of which result in a bearer (radio traffic channel) being assigned between the RAN and the mobile station.

If the service request message requests a circuit-related service, the RAN facilitates the circuit-related service being set up via a conventional circuit-switching entity such as an MSC. In particular, the RAN transmits a CM service request message to the MSC, receives an acknowledgement message from the MSC, and responsively assigns the bearer.

If the service request message requests a packet-related service, the RAN facilitates the packet-related service being set up via a packet-switching entity such as an IP session manager. In particular, the RAN transmits the service request message to a core network without processing the message. The service request message is then processed at the core network, and an assignment request is transmitted to the radio network, requesting that the radio network assign a bearer. The RAN then responsively assigns a bearer for the mobile station.

In effect, the processing of a call request is routed to different network entities depending on whether a circuit related service is requested or packet-related service is requested.

5. Cited Art

a. Marchand

Marchand is directed to a bandwidth broker (BB) that “allows or denies call requests from users for network resources based on input from [a] Radio Network Server (RNS)” (Abstract). The BB in Marchand “sends queries to the RNS regarding the availability of radio network resources to satisfy the received call request, and receives responses from the RNS indicating whether the requested resources are available or allowed” (*See*, Marchand, column 4, lines 17-21). Marchand teaches that the RNS functions as “a policy server providing radio

network resource allocation rules” (Abstract). Further, Marchand teaches that the RNS “determines a level of availability of radio network resources, and determines whether the level is sufficient to satisfy requests for resources in accordance with policy rules” (Abstract).

b. Almgren

Almgren is directed to providing radio access bearer services to different applications such as a web browsing application or a voice application. (See, Almgren, column 3, lines 59-65 and column 5, lines 65-67). Radio access bearer services are provided by a radio access bearer management node which is introduced between the core network and the radio access network (See, Almgren, column 6, lines 15-20). Almgren explains that radio access bearer management node performs the steps of identifying one more sessions traffic flows being sent by an application, characterizing the identified session in the form of parameters needed for the determination of one or more radio access bearer services, converting the characterized parameters into radio access bearer attributes, requesting and establishing one or more radio access bearers defined by means of said attributes, mapping each session on the correct radio access bearer established upon said request, indicating the end of a session, and releasing the radio access bearer(s) when not needed anymore. (See, Almgren, column 6, lines 3-12).

c. Menon

Menon is directed to a communication system having a wireless trunk for connecting multiple phone lines over wireless communication links to a cellular network (See, Menon, column 2, lines 14-19). As shown in Figure 1, Menon explains that a central telephone switch or a customer premises equipment (CPE) 105 is connected to a PSTN 125 and a wireless access communication unit 106 (labeled as the “CPRU”). See, column 4, lines 44-48. Further, Menon explains that “calls may be selectively routed by the CPE over landlines to a network or, instead,

to the wireless access communication unit, thereby bypassing landlines” (*See*, Menon, column 2, lines 24-26). The routing selection may be determined by the dialed digits.

5. Response to Examiner’s Rejections under 35 U.S.C. § 103(a)

As noted above, in the Office Action mailed March 16, 2006, the Examiner rejected claims 1-8 under 35 U.S.C § 103(a) as being unpatentable over a combination of Marchand, Almgren, and Menon. Under M.P.E.P. § 2143, a combination of references renders a patent claim obvious only if the combination of references discloses or suggests each and every element as recited in the claim. It is impermissible to use Applicant's claims as a blueprint for hindsight reconstruction. *In re Fritsch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) (explaining that the "mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification," and noting that it is impermissible to use the claimed invention as an instruction manual or template to piece together the teachings of the prior art).

Applicant respectfully traverses the obviousness rejections of the pending claims, because the cited Marchand, Almgren, and Menon patents, whether considered alone or in combination, fail to teach the Applicant's claimed invention as a whole. The combination of the references does not teach the steps required by the presently pending claims, which, in summary, include selectively transmitting a request to either an MSC or the core network depending on whether circuit-related or packet-related voice services are being requested, and assigning a bearer in response to either a service request acknowledgement message from the MSC or an assignment request from the core network.

In particular, step b) of the independent claims recites “at the radio network, determining whether a circuit-related service or a packet-related service is requested”. In response to determination, either step c) or step d) will ensue. At step c), “if the circuit-related service is

requested”, then the step of “(i) transmitting a connection management (CM) service request message to a mobile switching center (MSC) server; (ii) receiving a service acknowledgement message from the MSC server; and (iii) assigning a bearer in response to the service request acknowledgement message” will occur. However, at step d), “if the packet-related service is requested”, then the step of “(i) transmitting the service request message from the radio network to a core network without processing the service request message; (ii) at the core network, processing the service request message and transmitting an assignment request to the radio network, the assignment request requesting that the radio network assign a bearer for user data; and (iii) assigning the bearer in response to the assignment request” will occur.

Marchand does not teach the selective processing of requests by different network entities and then assigning a bearer according to responses received from the respective network entities as required by the independent claims. Marchand teaches method of allowing or denying wireless call requests. Marchand teaches that a bandwidth broker (BB) “sends queries to the RNS regarding the availability of radio network resources to satisfy the received call request, and receives responses from the RNS indicating whether the requested resources are available or allowed” (*See*, Marchand, column 4, lines 17-21). Based on the input from the RNS server, the BB either allows or denies the call request.

Marchand's method of handling a call request by a single network entity, namely the BB, which queries the RNS to check which resources are allowed and available, does not amount to the step of “transmitting a request” either to an MSC or to a core network, depending on whether circuit-related processing or packet-related voice services are being requested. Neither does Marchand teach “assigning a bearer” in response to either a “service request acknowledgement message” from the MSC if circuit-related service was requested or an “assignment request” from the core network if packet-related voice service was requested.

Almgren also fails to provide the steps missing from Marchand. Almgren is directed to a radio access bearer management node providing radio access bearer services. In column 6, lines 2 -12, Almgren clearly states that the radio access bearer management node, located on the core network side and shown as node “D” in Figure 2, carries out the function of requesting, establishing, mapping, and releasing a radio access bearer. Further, in column 12, line 28-30, Almgren states that the “offered bearer generator 240 generates bearers (OSV) 260 that can be offered, for example, to a requesting mobile station.” The offered bearer generator 240 is on the core network side. (*See*, Almgren, column 12, lines 15-27).

This method of providing radio access bearer services by a single node, namely the radio access bearer management node, does not amount to the method of “transmitting a request” to a MSC or a core network depending on whether circuit-related processing or packet-related voice services are being requested and then “assigning a bearer” in response to either a “service request acknowledgement message” from the MSC if circuit-related service was requested or an “assignment request” from the core network if packet-related voice service was requested.

Similarly, Menon fails to teach the selective processing of requests by different network entities and then assigning a bearer accordingly as required by the independent claims. Menon teaches that a customer premises equipment (CPE) 105 can selectively route calls to either a PSTN 125 or customer premises radio unit (CPRU) 106. Both of these entities, the PSTN 125 and the CPRU 106, are connected to MSC 116 as shown in Figure 1 which provides circuit-related voice service to a user. Menon does not teach providing packet-related voice service to a user. Thus, Menon does fails to teach the method of “transmitting a request” to a MSC or a core network depending on whether circuit-related processing or packet-related voice services are being requested and then “assigning a bearer” in response to either a “service request

acknowledgement message” from the MSC if circuit-related service was requested or an “assignment request” from the core network if packet-related voice service was requested.

Thus, the combination of Marchand, Menon, and Almgren fail to teach Applicant’s claimed invention as a whole. As explained above, the combination fails to teach “if the circuit-related service is requested [then] (i) transmitting a connection management (CM) service request message to a mobile switching center (MSC) server; (ii) receiving a service acknowledgement message from the MSC server; and (iii) assigning a bearer in response to the service request acknowledgement message; and if packet-related service is requested [then] (i) transmitting the service request message from the radio network to a core network without processing the service request message; (ii) at the core network, processing the service request message and transmitting an assignment request to the radio network, the assignment request requesting that the radio network assign a bearer for user data; and (iii) assigning the bearer in response to the assignment request”

Applicants submit that the Examiner has impermissibly used the claims as a guide to select portions of the prior art and piece them together. Yet in the Examiner’s hypothetical combination of prior art using circuit-switched data paths and that using packet-switched data, there is no teaching of the distributed processing described and claimed by Applicants. Applicants have found nothing to suggest that such a hypothetical combination would perform distributed processing of voice and packet data call requests, as opposed to processing by a single entity.

Thus, the combination of Marchand, Almgren, and Menon fails to teach all the limitations of any of claims 1 and 7. Because the combination of Marchand, Almgren, and Menon fails to teach all of the limitations of claims 1 and 7, a *prima facie* case of obviousness of claims 1 and 7 has not been made. Therefore, Applicant submits that claims 1 and 7 are

allowable. Further, Applicant submits that claims 2-6 and 8 are also allowable for at least the reason that they each depend from allowable claim 1 or allowable claim 7.

In view of the foregoing, Applicant submits that claims 1-8 are allowable, and thus Applicant respectfully requests favorable reconsideration and allowance of these claims.

Should the Examiner wish to discuss this case with the undersigned, the Examiner is invited to call the undersigned at (312) 913- 3305.

Respectfully submitted,

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